

CLAIMS

1. A transfer assembly for transferring articles from an input conveyor to an output position, the transfer assembly comprising:
 - (a) a support structure;
 - (b) a conveyor assembly mounted to said support structure, said conveyor assembly having a working conveyor surface, said working conveyor surface having an input end and an output end, said output end being moveable in a substantially lateral direction between a first position and a second position, said first position being such that said working conveyor surface is substantially laterally positioned away from the output position, said second position being such that a portion of said working conveyor surface is positioned above the output position;
 - (c) a linear actuator mounted to said output end, said linear actuator adapted for moving said output end between said first position and said second position; and
 - (d) a conveyor controller assembly coupled to said conveyor surface, said conveyor controller assembly being adapted to selectively translate said working conveyor surface with respect to said input end; said conveyor controller assembly being adapted to selectively maintain at least a portion of said conveyor surface stationary with respect to said support structure.
2. A transfer assembly as claimed in claim 1, wherein said conveyor controller assembly includes a first conveyance actuator adapted to selectively translate said conveyor surface with respect to said input end.
3. A transfer assembly as claimed in claim 2, wherein said conveyor controller assembly further includes a conveyor stop for selectively maintaining at least a portion of said conveyor surface stationary with respect to said support structure when said linear

actuator is moving said output end.

4. A transfer assembly as claimed in claim 3, wherein said conveyor stop includes a clamp positioned about said working conveyor surface, said clamp being operable to releasably grasp a portion of said working conveyor surface.
5. A transfer assembly as claimed in claim 2, wherein said conveyor controller further includes a second conveyance actuator adapted to selectively translate said working conveyor surface with respect to said input end in a direction opposite to that of said first conveyance actuator.
6. A transfer assembly as claimed in claim 5, wherein said linear actuator is adapted to move said output end at a first speed in a first direction, and second conveyance actuator is adapted to selectively translate said working conveyor surface with respect to said input end at a rate substantially equal to said first speed in a second direction, said second direction being opposite to said first direction, whereby when said linear actuator is activated in a first direction and said second conveyance actuator is activated to translate said working conveyor surface in said second direction, a portion of said working conveyor surface is stationary with respect to said support structure.
7. A transfer assembly as claimed in claim 1, wherein said working conveyor surface has a fixed length in the lateral direction as said output end is moved from said first position and said second position.
8. A transfer assembly as claimed in claim 1, wherein said working conveyor surface has a variable length in the lateral direction when said output end is moved from said first position and said second position.
9. A transfer assembly as claimed in claim 8, wherein said input end is mounted to a fixed

position with respect to said support structure.

10. A transfer assembly as claimed in claim 1, wherein said conveyor assembly includes at least two conveyor rollers and a conveyor belt looped around said conveyor rollers, said working conveyor surface being an uppermost surface of said conveyor belt.
11. A transfer assembly as claimed in claim 10, wherein said conveyor controller assembly includes a motor mounted to rotate one of said conveyor rollers.
12. A transfer assembly as claimed in claim 1, wherein said conveyor assembly includes a series of parallel cylindrical rollers, said working conveyor surface being the combination of the upper portions of said parallel cylindrical rollers.
13. A transfer assembly as claimed in claim 12, wherein said conveyor controller assembly includes a motor mounted to rotate at least one of said conveyor rollers.
14. A transfer assembly as claimed in claim 1, further comprising an electronic controller for activating said linear actuator and for operating said conveyor control assembly.
15. A process for transferring articles from an input conveyor to an output position using a transfer assembly, the transfer assembly having a support structure and a conveyor assembly mounted thereon, the conveyor assembly having a working conveyor surface extending between an input end and an output end, the output end being movable between a first position and a second position, the first position being such that the working conveyor surface is substantially laterally positioned away from the output position, the second position being such that a portion of the working conveyor surface is positioned above the output position, the process comprising the steps of:
 - (a) transporting the article along the input conveyor towards the transfer assembly in a generally lateral direction;

- (b) translating the working conveyor surface with respect to the support structure in said generally lateral direction;
 - (c) transferring the article from the input conveyor to the working conveyor surface;
 - (d) moving the output end to the second position;
 - (e) translating the working conveyor surface such that the article is positioned substantially above the output position;
 - (f) maintaining at least a portion of the working conveyor surface stationary with respect to the support structure while moving the output end to the first position, whereby the article is transported vertically downwardly to the output position.
17. A process as claimed in claim 16, wherein the output position is the upper surface of an output conveyor, the output conveyor being adapted to move in a direction transverse to the generally lateral direction.
18. A process as claimed in claim 16, wherein step (f) is performed by moving the output end to the first position at a first speed and in a first direction while translating the working conveyor surface with respect to the input end at a rate substantially equal to the first speed and in a second direction, the second direction being opposite to said first direction.